

REMARKS

Claims 1 and 4 are pending in the present application and are rejected. Claims 1 and 4 are herein amended. New claim 5 is added herein.

Applicants' Response to Double Patenting Rejections

Claims 1 and 4 were provisionally rejected on the ground of non-statutory obviousness-type double patenting as being unpatentable over claim 1 of co-pending Application No. 10/567,435 ("the '435 application").

The Office Action states that although the conflicting claims are not identical, they are not patentably distinct from each other because an engine, a transmission, a generator/motor and a starter motor has been set forth in claim 1 of the '435 application. The Office Action states that the engine having a crankshaft, the transmission having an input shaft, the generator/motor disposed at a position sandwiched between the engine and the transmission and the starter motor has been claimed in the claims of the '435 application.

In response, Applicants respectfully submit that claims 1 and 4 of the pending application are in fact patentably distinct from claim 1 of the '435 application. Applicants note that the Office Action does not address all elements and features of the claims, and only generally mentions the engine, transmission, generator and starter motor.

Claims 1 and 4 of the pending application include features not recited in claim 1 of the '435 application or obvious in view of claim 1 of the '435 application. For instance, claims 1 and 4 of the pending application recite that "the generator/motor is disposed coaxially with the

axis.” Meanwhile, claim 1 of the ‘435 application recites “a generator/motor (M1) that is disposed at....a position off an axis (L) of the input shaft.” Thus, the present application and the ‘435 application recite completely different positions for the generator/motor (M1). Therefore, for at least this reason, Applicants respectfully submit that claims 1 and 4 of the pending application are patentably distinct from claim 1 of the ‘435 application, and that the rejection should be withdrawn. Favorable reconsideration is respectfully requested.

Applicants’ Response to Claim Rejections under 35 U.S.C. §102

Claims 1 and 4 were rejected under 35 U.S.C. §102(b) as being anticipated by Nagano et al. (U.S. Patent No. 6,155,364).

It is the position of the Office Action that Nagano discloses the invention as claimed. Nagano is directed at a hybrid drive system wherein a planetary gear mechanism is disposed radially inwardly of stator coil of motor/generator. Nagano includes six embodiments, each of which includes an engine 42, a first motor/generator 48, a second motor/generator (used as a starter) 44 and a planetary gear mechanism 46. The Office Action groups all of these embodiments together, despite their differing arrangements of main elements. It appears that the disclosure of Nagano may be summarized as follows:

Embodiments	Figures	Configuration
1 st Embodiment	1-7; 17	Engine-Starter-Transmission-Motor
2 nd Embodiment	8-10	Engine-Transmission-Motor-Starter
3 rd Embodiment	11-13	Engine-Starter-Motor-Transmission
4 th Embodiment	14	Engine-Starter-Motor-Transmission
5 th Embodiment	15	Engine-Starter-Transmission-Motor
6 th Embodiment	16	Engine-Starter-Transmission-Motor

The third and fourth embodiments differ at least in the position of the chain 62. In the third embodiment, the chain 62 is disposed adjacent to the planetary gear system, on the opposite side of the planetary gear system relative to the motor. On the other hand, in the fourth embodiment, the chain 62 is disposed between the motor and the starter. Since the third and fourth embodiments are the most similar to the configuration of the claimed embodiments, these will be discussed in the greatest detail.

The configurations of the first, second, fifth and sixth embodiments do not disclose a motor/generator sandwiched between the transmission and the engine, as required by claims 1 and 4. As illustrated in Figures 1, 8, 15 and 16, first motor/generator 48 is not sandwiched between planetary gear mechanism 46 and engine 42. Thus, these embodiments of Nagano do not anticipate the invention as claimed.

As to the third and fourth embodiment of Nagano, Applicants respectfully submit that these embodiments do not disclose or suggest the embodiments as claimed, at least because they do not disclose or suggest the transmission as claimed. As illustrated for example in Figure 7 of the present invention, the transmission T includes drive pulleys 29 and driven pulleys 30. Each of these pulley sets includes a fixed pulley (29a, 30a) and a movable pulley (29b, 30b). Endless belt 31 moves along these pulleys. When the size of the pulley gaps between pulleys 29a/29b and 30a/30b is changed, the gear ratio is changed.

The third embodiment of Nagano includes an input shaft 164 disposed on axis O_1 which inputs into the planetary gear mechanism 46. Planetary gear mechanism 46 outputs to sprocket 50, which rotates driven sprocket 60 via chain 62. Driven sprocket 60 then causes intermediate

shaft 166 and speed reduction gear 66 to rotate on axis O_2 . Speed reduction gear 66 causes speed reduction gear 68 on second intermediate shaft 64 to rotate on axis O_3 . Second intermediate shaft 64 causes output gear 70 to rotate. Output gear 70 interacts with differential gear device 72, which outputs to the drive wheels.

The Office Action identifies an output shaft as not numbered, but illustrated in Figure 1. Since first intermediate shaft 58 and second intermediate shaft 64 are numbered in Figure 1, it appears that the Office Action may be referring to the shaft which passes through first motor/generator 48. However, as noted above, the embodiment of Figure 1 does not disclose the arrangement required by claims 1 and 4. With respect to the embodiment of Figures 11-13, even if second intermediate shaft 64 is regarded as an output shaft, this embodiment of Nagano does not disclose or suggest the transmission as claimed.

Each of claims 1 and 4 require a transmission which "is capable of changing the gear ratio between said drive member and said driven member." However, Nagano does not disclose or suggest a transmission which can change the gear ratios between the drive member and the driven member, as required by claims 1 and 4. In the third embodiment of Nagano, power is transmitted from the input shaft, through the planetary gear system to an intermediate shaft and ultimately to an output gear. All of the gear ratios along this power transmission are fixed. Nagano does not disclose or suggest variable gear ratios.

As to the fourth embodiment, illustrated in Figure 14, Applicants reiterate similar remarks as to the third embodiment. The only significant difference between the third and fourth embodiments is the location of the chain 62. The fourth embodiment also does not disclose or

suggest variable gear ratios. Therefore, for at least the above reasons, Applicants respectfully submit that Nagano does not disclose or suggest the embodiments as claimed. Favorable reconsideration is respectfully requested.

New claims

The pending claims only recite the embodiments of Figures 7-10. As such, Applicants herein add new claim 5 reciting the embodiment of Figures 1-6 (not including a starter M2). Applicants respectfully submit that this embodiment is not disclosed or suggested by the cited art, at least since the cited art does not disclose a transmission including changeable gear ratios. Favorable consideration is respectfully requested.

For at least the foregoing reasons, the claimed invention distinguishes over the cited art and defines patentable subject matter. Favorable reconsideration is earnestly solicited.

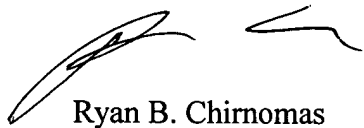
Should the Examiner deem that any further action by applicants would be desirable to place the application in condition for allowance, the Examiner is encouraged to telephone applicants' undersigned attorney.

Application No.: 10/567,434
Art Unit: 3618

Amendment
Attorney Docket No.: 062041

If this paper is not timely filed, Applicants respectfully petition for an appropriate extension of time. The fees for such an extension or any other fees that may be due with respect to this paper may be charged to Deposit Account No. 50-2866.

Respectfully submitted,
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